



 THE CENTER FOR HEALTH DESIGN®

RESIDENTIAL HEALTH CARE FACILITIES  
2014 GUIDELINES REVISION PROJECT

# HOUSEHOLD AND SMALL HOUSE

FUNDED BY

THE HULDA B. & MAURICE L.  
ROTHSCHILD FOUNDATION

PUBLISHED BY

THE CENTER FOR  
HEALTH DESIGN

[www.healthdesign.org](http://www.healthdesign.org)

---

**By**

Jane Rohde, AIA, FIIDA, ACHA, AAHID, LEED AP  
*Facilitator*

Residential Health Care Workgroup

JULY 2012

---



## ACKNOWLEDGEMENTS

---

### The Hulda B. & Maurice L. Rothschild Foundation

---



The Rothschild Foundation is a national private philanthropy with a primary interest in improving the quality of life for elders around the country, in long-term care communities. Currently, the Foundation is supporting the development of alternative long-term care programs and built environment designs, as well as regulatory change.

---

### The Center for Health Design

---



The Center for Health Design (CHD) is a nonprofit organization that engages and supports professionals and organizations in the healthcare, construction, and design industry to improve the quality of healthcare facilities and create new environments for healthy aging. CHD's mission is to transform healthcare environments for a healthier, safer world through design research, education, and advocacy.



# Foreword

## Residential Health Care Facilities 2014 Guidelines Revision Project

The *Guidelines for Design and Construction of Health Care Facilities* is used as code in over 40 states by facilities, designers, and authorities having jurisdiction for the design and construction of new and renovated health care facilities across the nation. The Facility Guidelines Institute (FGI) is responsible for the *Guidelines*, which are updated on a 4-year cycle by a group of volunteers, — the Health Guidelines Revision Committee (HGRC). The committee is made up of experts from all sectors of the healthcare industry: doctors, nurses, engineers, architects, designers, facility managers, health care systems, care providers, etc. For further information and/or to view the *Guidelines*, go to the Facility Guidelines Institute's website at [www.fgiguidelines.org](http://www.fgiguidelines.org).

The 2010 *Guidelines for Design and Construction of Health Care Facilities* has launched into the 2014 cycle for revisions. In preparation of the 2014 revision cycle, The Center for Health Design and the Rothschild Foundation teamed together to identify areas for improvement within the Residential Health Care Facility portion of the *Guidelines*, specifically related to nursing homes. This resulted in a working meeting of long term care experts that came together to work on proposals for the 2014 *Guidelines* on topics such as culture change, resident-centered care, alternative care models, utilization of mobility devices, incorporation of wellness centers and programming, improvements to resident rooms, and access to nature and outdoor spaces by residents. The work completed by this group has been developed into formal proposals that have been submitted through the FGI website for the 2014 *Guidelines*.

Concurrently, the FGI and the Steering Committee of the 2014 *Guidelines* revision process agreed that a separate volume for residential health care facilities is needed within the marketplace to support not only the positive culture change that has been occurring within the long term care field, but to also assist with updating guidelines currently utilized within different states. This has resulted in the proposal of the *Guidelines for Design and Construction of Long Term Residential Health, Care, Support and Related Facilities* as a separate standalone publication.

The public proposal process closed on October 31, 2011, and the HGRC voted on final proposals in the end of January 2012. A public comment period on all the proposals that have been made for both Volume 1 (acute care and ambulatory care facilities) and Volume 2 (residential health, care, and support facilities) will begin in May, 2012 through mid-December, 2012. Voting on the comments is slated for 2013 with the final publication completed in 2014.

Many thanks are extended to the following dedicated volunteers who have provided many hours in preparing and filling in templates for the formal proposals to be completed and their generous time in writing the following issue briefs that review the current 2010 *Guidelines* language, identify the needs for improvements, the provision of recommendations, and the supportive research and references required to submit a proposal to the HGRC for consideration.

- Rob Mayer, The Hulda B. & Maurice L. Rothschild Foundation
- Kimberly Nelson Montague, Planetree
- Karla Gustafson, Ageless Designs
- Ingrid Fraley, Design Services Inc. and Design for Aging Knowledge Center
- Jerry Smith, Smith Green Health
- Margaret Calkins, IDEAS Consulting/SAGE
- Thomas Jung, retired Division of Health Facility Planning, NYSDOH
- Lois Cutler, University of Minnesota
- Richard Wilson, Sitrin Health Care
- Larry Funk, Laguna Honda
- Cathy Lieblich, Pioneer Network
- Jude Rabig, Rabig Consulting
- Gaius Nelson, Nelson-Tremain Partnership
- Melissa Pritchard, SFCS
- Skip Gregory, retired, Florida Agency for Health Care Administration

- Ron Proffitt, formerly with Volunteers of America
- Jeanette Perlman, MJM Associates and NYU
- Carolyn Quist, The Center for Health Design
- Sara Marberry, The Center for Health Design
- Jane Rohde, JSR Associates Inc. (Project Facilitator)



## HOUSEHOLD AND SMALL HOUSE

Facilitated and edited by Jane Rohde, AIA, FIIDA, ACHA, AAHID, LEED AP  
Workgroup participants: *Jane Rohde, Jude Rabig, Margaret Calkins*

With the advent of culture change in the long-term care market, it was viewed as necessary to provide minimal guidelines that would assist authorities having jurisdiction and designers to identify different requirements based upon different models of care and facilities being provided for long-term care residents. Research is available for improving long-term care environments through culture-change initiatives (resident-centered models) and different types of environments that substantially differ from a traditional institutional model. However, because of existing institutional models, the guidelines also need to continue to support improvements in traditional settings as well.

After reviewing the existing 2010 *Guidelines* text, a comprehensive approach focusing on typologies was utilized as a basis for organizing different types of nursing home settings. Subsequent to the restructuring and rewriting of the text by this workgroup, the Specialty Sub-Group of the overall Health Guidelines Revision Committee utilized the same approach for not only nursing homes, but for other residential care facilities, including a new chapter on independent living, assisted living, hospice, and adult day care.

For nursing homes, different configurations of models are proposed as follows: institutional, cluster, and connected and freestanding household. Neighborhoods are defined as cluster, connected households, and freestanding households that may be grouped together in a neighborhood that provides shared activity, therapeutic, and support areas.

The following definitions have been proposed for the 2014 *Guidelines for Design and Construction of Residential Health, Care, Support, and Related Facilities*:

- An *institutional model* typically includes 40 or more residents in a double-loaded corridor configuration with centralized service/community areas, staff work areas, and resident support areas.

- A *cluster model* typically includes up to 10 residents that would be grouped in neighborhoods of 21 to 40 residents directly adjacent to decentralized service areas, optional satellite work areas, and optional decentralized resident support areas, such as dining.
- A *connected and freestanding household model* typically includes 10 to 24 residents in a grouping that may be freestanding or located within a larger facility and/or attached to another similar household. Households may share some support spaces/services. The model includes a residentially scaled kitchen and living room design in conjunction with a reorganization of staff to provide resident-centered care.

For each typology proposed for the main text, the related appendix material includes a clear description of each model, functional programming information, guidelines for the physical setting, and, where appropriate, additional resident and staff benefits of the model. In addition, a table that includes model type characteristics has been proposed to provide clear information for both designers and authorities having jurisdiction.

In summary, the overall goal of the workgroup is to provide both minimum requirements and additional best practices information within the appendix that support the trend of culture change and resident-centered care that is intended to improve not only the physical environment, but also the quality of life and outcomes for residents and staff.



## REFERENCES

Annerstedt, L. (1994). An attempt to determine the impact of group living care in comparison to traditional long-term care on demented elderly patients. *Aging Clinical Experimental Research*, 6(5), 372–380.

Annerstedt, L. (1997). Group-living care: An alternative for the demented elderly. *Dementia and Geriatric Cognitive Disorders*, 8, 136–142.

Brawley, B. C. (2006). *Designing innovations for aging and Alzheimer's: Creating caring environments*. Hoboken, NJ: John Wiley & Sons, Inc.

Briller, S., Proffitt, M., Perez, K., Calkins, M., & Marsden, J. (2001). Maximizing cognitive and functional abilities. In M. Calkins (Producer), *Creating successful dementia care settings*. Baltimore: Health Professions Press.

Calkins, M. (1997). Home is more than carpeting and chintz. *Nursing Homes*, 44(6), 20–25.

Calkins, M. (2001). *Creating successful dementia care settings Vol. 1-4*. Baltimore: Health Professions Press.

Calkins, M. (2009). Evidence-based long term care design. *NeuroRehabilitation*, 25(3), 145–154.

Calkins, M. P. (1988). *Design for dementia: Planning environments for the elderly and the confused*. Owing Mills, MD: National Health Publishing.

Calkins, M. P. (1989). Designing cues for wanderers. *Provider* 15(8), 7–10.

Campbell, S. S., Kripke, D. F., Gillin, J. C., & Hrubovcak, J. C. (1988). Exposure to light in healthy elderly subjects and Alzheimer's patients. *Physiology and Behavior*, 42, 141–144.



- Chafetz, P. K. (1990). Two-dimensional grid is ineffective against demented patients exiting through glass doors. *Psychology and Aging, 5*(1), 146–147.
- Cleary, T. A., Clamon, C., Price, M., & Shullaw, G. (1988). A reduced stimulation unit: Effects on patients with Alzheimer's disease and related disorders. *The Gerontologist, 28*(4), 511–514.
- Cohen, U., & Day, K. (1993). *Contemporary environments for people with dementia*. Baltimore, MD: Johns Hopkins University Press.
- Cohen, U., & Weisman, G. D. (1991). *Holding on to home. Designing environments for people with dementia*. Baltimore, MD: Johns Hopkins University Press.
- Cohen-Mansfield, J., & Werner, P. (1998). The effects of an enhanced environment on nursing home residents who pace. *The Gerontologist, 38*(2), 199–208.
- Coons, D. (1985). Alive and well at Wesley Hall. *Quarterly: A Journal of Long Term Care, 21*(2), 10–14.
- Davis, S., Byers, S., Nay, R., & Koch, S. (2009). Guiding design of dementia friendly environments in residential care settings: Considering the living experiences. *Dementia, 8*(2), 185–204.
- Day, K., & Calkins, M. P. (2002). Design and dementia. In R. B. A. Churchman (Ed.), *Handbook of environmental psychology*. New York: John Wiley & Sons.
- Day, K., Carreon, D., & Stump, C. (2000). The therapeutic design of environments for people with dementia: A review of the empirical research. *The Gerontologist, 40*(4), 397–416.
- Day, T., & Rich, C. (2009). A theoretical model for transforming the design of healing spas: Color and platonic solids. *HERD, 2*(3), 84–107.
- Dickinson, J. I., McLain-Kark, J., & Marshall-Baker, A. (1995). The effects of visual barriers on exiting behavior in a demented care unit. *The Gerontologist, 35*(1), 127–130.

- Doig, W., Scott, G., & Townsley, S. (1998). *Cluster design: Is there an optimum design?* Presentation at the American Association of Homes and Services for the Aging 37th Annual Meeting and Exposition, Los Angeles, CA.
- Elmståhl, S., Annerstedt, L., & Åhlund, O. (1997). How should a group living unit for demented elderly be designed to decrease psychiatric symptoms? *Alzheimer Disease and Associated Disorders*, 11(1), 47–52.
- Götestam, K. G., & Melin, L. (1987). Improving well-being for patients with senile dementia by minor changes in the ward environment. In L. Levi (Ed.), *Society, stress, and disease*. (pp. 295–297). Oxford: Oxford University Press.
- Hanley, I. G. (1981). The use of signposts and active training to modify ward disorientation in elderly patients. *Journal of Behavioral Therapy and Experimental Psychiatry*, 12(3), 241–247.
- Hiatt, L. (1991). *Nursing home renovation designed for reform*. Boston: Butterworth Architecture.
- Hoglund, J. D., Dimotta, S., Ledewitz, S., & Saxton, J. (1994). Long-term care design: Woodside Place—the role of environmental design in quality of life for residents with dementia. *Journal of Healthcare Design*, 6, 69–76.
- Joseph, A. (2006). *Health promotion by design in long-term care settings*. Concord, CA: The Center for Health Design.
- Joseph, A., & Ulrich, R. (2007). Sound control for improved outcomes in healthcare settings (p. 15). Concord, CA: The Center for Health Design.
- Kihlgren, M., Bråne, G., Karlsson, I., Kuremyr, D., Leissner, P., & Norberg, A. (1992). Long-term influences on demented patients in different caring milieus, a collective living unit and a nursing home: A descriptive study. *Dementia*, 3, 342–349.
- Koss, E., & Gilmore, G. C. (1998). Environmental interventions and functional ability of AD patients. In B. Vellas, J. Fitten, & G. Frisoni (Eds.), *Research and practice in Alzheimer's disease 1998* (pp. 185–193). New York: Springer.

- Kovach, C. R., & Meyer-Arnold, E. A. (1996). Coping with conflicting agendas: The bathing experience of cognitively impaired older adults. *Scholarly Inquiry for Nursing Practice: An International Journal*, 10(1), 23–36.
- Lawton, M. P., Fulcomer, M., & Kleban, M. (1984). Architecture for the mentally impaired elderly. *Environment and Behavior*, 16(6), 730–757.
- Lawton, M. P., Liebowitz, B., & Charon, H. (1970). Physical structure and the behavior of senile patients following ward remodeling. *Aging and Human Development*, 1, 231–239.
- Liebowitz, B., Lawton, M. P., & Waldman, A. (1979a). Evaluation: Designing for confused elderly people. *American Institute of Architects Journal*, 68, 59–61.
- Lyketsos, C., Veiel, L., Baker, A., & Steele, C., (1999) A randomized, control trial of bright light therapy for agitated behaviors in dementia patients residing in long-term care. *International Journal of Geriatric Psychiatry*, 14(7), 520–525.
- Marcus, C. (2009). Patient-specific healing gardens. *World Health Design*, 2(1), 65–71.
- Marquardt, G., & Schmiege, P. (2009). Dementia-friendly architecture: Environments that facilitate wayfinding in nursing homes. *American Journal of Alzheimer's Disease & Other Dementias*, 24(4), 333–340.
- Mayer, R., & Darby, S. J. (1991). Does a mirror deter wandering in demented older people? *International Journal of Geriatric Psychiatry*, 6, 607–609.
- McAllister, C. L., & Silverman, M. A. (1999). Community formation and community roles among persons with Alzheimer's disease: A comparative study of experiences in a residential Alzheimer's facility and a traditional nursing home. *Qualitative Health Research*, 9(1), 65–85.
- McCracken, A. L., & Fitzwater, E. (1989). The right environment for Alzheimer's: Which is better—open versus closed units? Here's how to tailor the answer to the patient. *Geriatric Nursing*, 10(6), 293–294.

- Mooney, P., & Nicell, P. L. (1992). The importance of exterior environment for Alzheimer residents: Effective care and risk management. *Healthcare Management Forum*, 5(2), 23–29.
- Moore, K. D. (1999). Dissonance in the dining room: A study of social interaction in a special care unit. *Qualitative Health Research*, 9(1), 133–155.
- Morgan, D. G., & Stewart, N. J. (1999). The physical environment of special care units: Needs of residents with dementia from the perspective of staff and caregivers. *Qualitative Health Research*, 9(1), 105–118.
- Namazi, K. H., & Johnson, B. D. (1991a). Environmental effects on incontinence problems in Alzheimer's patients. *American Journal of Alzheimer's Care and Related Disorders and Research*, 6, 16–21.
- Namazi, K. H., & Johnson, B. D. (1991b). Physical environmental cues to reduce the problems of incontinence in Alzheimer's disease units. *American Journal of Alzheimer's Care and Related Disorders and Research*, 6, 22–29.
- Namazi, K. H., & Johnson, B. D. (1992a). Dressing independently: A closet modification model for Alzheimer's disease patients. *American Journal of Alzheimer's Care and Related Disorders and Research*, 7, 22–28.
- Namazi, K. H., & Johnson, B. D. (1992b). The effects of environmental barriers on the attention span of Alzheimer's disease patients. *American Journal of Alzheimer's Care and Related Disorders and Research*, 7, 9–15.
- Namazi, K. H., & Johnson, B. D. (1992c). Pertinent autonomy for residents with dementias: Modification of the physical environment to enhance independence. *American Journal of Alzheimer's Care and Related Disorders and Research*, January/February, 16–21.
- Namazi, K. H., & Johnson, B. D. (1996). Issues related to behavior and the physical environment: Bathing cognitively impaired patients. *Geriatric Nursing*, 17(5), 234–239.

Namazi, K. H., Rosner, T. T., & Calkins, M. P. (1989). Visual barriers to prevent ambulatory Alzheimer's patients from exiting through an emergency door. *The Gerontologist*, 29, 699–702.

Namazi, K. H., Rosner, T. T., & Rechlin, L. (1991). Long-term memory cuing to reduce visuo-spatial disorientation in Alzheimer's disease patients in a special care unit. *American Journal of Alzheimer's Care and Related Disorders and Research*, 6(6), 10–15.

Nanda, U., D. Pati, et al. (2009). Neuroesthetics and healthcare design. *HERD* 2(2), 116–133.

Negley, E. N., & Manley, J. T. (1990). Environmental interventions in assaultive behavior. *Journal of Gerontological Nursing*, 16(3), 29–33.

Nelson, J. (1995). The influence of environmental factors in incidents of disruptive behavior. *Journal of Gerontological Nursing*, 21(5), 19–24.

Netten, A. (1989). The effect of design of residential homes in creating dependency among confused elderly residents: A study of elderly demented residents and their ability to find their way around homes for the elderly. *International Journal of Geriatric Psychiatry*, 4(3), 143–153.

Netten, A. (1993). *A positive environment? Physical and social influences on people with senile dementia in residential care*. Aldershot, England: Ashgate.

Passini, R., Rainville, C., Marchand, N., & Joannette, Y. (1998). Wayfinding and dementia: Some research findings and a new look at design. *Journal of Architectural and Planning Research*, 15(2), 133–151.

Reeve, J., & Cooper, B. (1987). Meeting residents' special needs through facility design. *Contemporary Long Term Care* 18(9), 116–118.

Regnier, V. (1997). Design for assisted living. *Contemporary Long Term Care* 20(2), 50–55.

Scandura, D. A. (1995). Freedom and safety: A Colorado center cares for Alzheimer's patients. *Health Progress*, 76(3), 44–46.

- Simard, J., & Volicer, L. (2010). Effects of namaste care on residents who do not benefit from usual activities. *American Journal of Alzheimer's Disease & Other Dementias*, 25(1), 46–50.
- Sloane, P. D., Mitchell, C. M., Preisser, J. S., Phillips, C., Commander, C., & Burkner, E. (1998). Environmental correlates of resident agitation in Alzheimer's disease special care units. *Journal of the American Geriatrics Society*, 46(7), 862–869.
- Snyder, L. H. (1978). Environmental changes for socialization. *Journal of Nursing Administration*, 18(1), 44–55.
- Teresi, J. A., Holmes, D., & Monaco, C. (1993). An evaluation of the effects of commingling cognitively and noncognitively impaired individuals in long-term care facilities. *The Gerontologist*, 33(3), 350–358.
- Teresi, J. A., Holmes, D., Ramírez, M., & Kong, J. (1998). Staffing patterns, staff support, and training in special care and nonspecial care units. *Journal of Mental Health and Aging*, 4(4), 443–458.
- Tetlow, K. (1995). Exercise by design. *Contemporary Long Term Care* 18(3), 38–42.
- Ulrich, R., Zimring, C., Zhu, X., DuBose, J., Seo, H.-B., S, C., et al. (2008). A review of the research literature on evidence-based healthcare design. *HERD*, 1(3), 61–125.
- Whall, A. L., Black, M. E., Groh, C. J., Yankou, D. J., Kuperschmid, B. J., & Foster, N. L. (1997). The effect of natural environments upon agitation and aggression in late stage dementia patients. *American Journal of Alzheimer's Disease*, 12(5), 216–220.
- Yundt, S. (2009, March). The future of patient rooms: Challenges and controversies. *Healthcare Design*, 9, 32–36.